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TAXONOMIC STATUS OF THE VESPERTILIONID
GENUS *ANAMYGDON* (MAMMALIA; CHIROPTERA)

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Miller (1907) named the vespertilionid subfamily Kerivoulineae and included in it the genera *Kerivoula* Gray and *Phoniscus* Miller. *Chrysopteron* Jentink was added to the subfamily (Jentink, 1910), but later was considered a subgenus of *Myotis* Kaup and therefore a vespertilionine by Tate (1941a, 1941b). *Anamygdon*, a monotypic genus known from a single specimen, was named as a kerivouline by Troughton (1929). Hill (1965) recently reviewed *Kerivoula* and *Phoniscus* but did not judge the taxonomic status of *Anamygdon*. Ryan (1965), who also studied *Kerivoula* and *Phoniscus*, considered *Anamygdon* a distinct genus on the basis of descriptions by others.

The subfamily Kerivoulineae is distinguished from the Vespertilioninae primarily by means of sternal characteristics. In the Kerivoulineae the length of the sternum is much less than twice the breadth of the presternum. Furthermore, "only four or five ribs articulate with the sternum" in kerivoulines (Miller, 1907: 232), whereas in vespertilionines the sternum is slender, "considerably more than twice [the] greatest width of [the] presternum," and "six ribs [are] connected with [the] sternum" (Miller, *op. cit.*: 197).

In addition to the sternal features listed above, *Kerivoula* and *Phoniscus* are characterized by having three well-developed upper premolars in line with the axis of the toothrow. *Chrysopteron* differs in having a reduced middle upper premolar that is located slightly internal to the toothrow, and lacks the sternal characteristics of kerivoulines.

Anamygdon was named on the basis of one specimen from Roviana Island in the Solomons. Although this specimen had external features and dentition generally like those of *Myotis*, only five ribs were attached to the sternum (Troughton, 1929: 85). After careful study of his specimen, Troughton (*op. cit.*: 86) decided that its "premolars definitely ally it with *Chrysopteron*." On the basis of sternal and dental characteristics he concluded (*op. cit.*: 98) that *Anamygdon* represented a kerivouline branch "nearest to the Vespertilioninae." Furthermore, Troughton (*op. cit.*: 85) pointed out that because *Anamygdon* agreed well with published descriptions of *Myotis moluccarum* [= *M. adversus moluccarum*], it was possible that some specimens assigned to *M. moluccarum* would prove to be representatives of *Anamygdon*. This seemed especially likely to Troughton because the sternal characteristics of *Anamygdon*, which apparently allied it with the Kerivoulinae, could easily have been overlooked by other workers.

Thomas (1923: 253) failed "to see any reason for distinguishing [*Chrysopteron*] from *Myotis*." Subsequently, Tate (1941a: 547; 1941b: 584) allocated *Chrysopteron* subgeneric rank under *Myotis*, and thereby placed it in the Vespertilioninae. Tate (1941b: 586) thought that *Anamygdon*, with its "Kerivoula-like" sternum and "Myotis-like" premolars, represented a lineage independently derived from near the common origin of *Myotis* and *Kerivoula*.

In 1964, Philip Temple, who collected zoological specimens in the Southwest Pacific for the Entomology Department of the Bernice P. Bishop Museum, Honolulu, Hawaii, obtained five specimens referable to *A. solomonis* in sea caves near Toumoa on Fauro Island (6° 55' S, 157° 07' E) in the British Solomon Islands Protectorate. Study of these specimens has enabled us to re-evaluate the taxonomic status of this nominal kerivouline genus.

Specimens listed herein are deposited in the Bernice P. Bishop Museum (BPB-BSIP), the American Museum of Natural History (AMNH), the Australian Museum (AM), the United States National Museum (USNM), and the British Museum (BM). The Bishop Museum specimens originally

TABLE 1. Comparative measurements of eight specimens of *Myotis adversus moluccarum*. Measurements of the holotype of *Anamygdon solomonis* (AM M.4361) are from Troughton (1929) and measurements of the holotype of *M. adversus moluccarum* (BM 10.3.1.29) are from Thomas (1915).

Catalogue number	Sex	Locality	Head and body	Tail	Hind foot	Ear	Length of forearm	Third metacarpal	Greatest length of skull	Zygomatic breadth	Breadth of braincase	Mastoid breadth	Maxillary (C-M3) toothrow	Length of P4-M2	Breadth across upper canines	Length of mandible
BPB-BSIP 23756	♀	Fauro	53	40	12	14	40.4	38.4	—	—	—	—	—	—	—	—
BPB-BSIP 23758	♀	Fauro	55	41	14	14	41.3	39.8	—	—	—	—	—	—	—	—
BPB-BSIP 23759	♂	Fauro	55	37	9	13	38.8	37.2	15.5	9.8	8.0	8.2	5.9	3.6	4.3	10.8
BPB-BSIP 23757	♀	Fauro	50	40	10	13	39.7	38.3	15.6	9.8	7.7	8.1	5.7	3.5	4.4	10.9
BPB-BSIP 23760	♀	Fauro	52	39	13	13	38.8	36.7	15.6	9.8	7.7	8.2	5.9	3.5	4.4	11.1
AMNH 99901	♀	Nissan	—	38.5	13	15	42.1	40.6	15.9	10.0	7.7	8.3	6.0	3.7	4.7	11.3
AM M.4361	♀	Roviana	45(?)	35.5	10.2	11.5	38.5	34.5	15.4	9.8	7.9	—	6.0	3.7	—	—
BM 10.3.1.29	♂	Ara	55	39	13	13	41.0	—	15.4	—	7.5	—	5.9	3.5	—	—

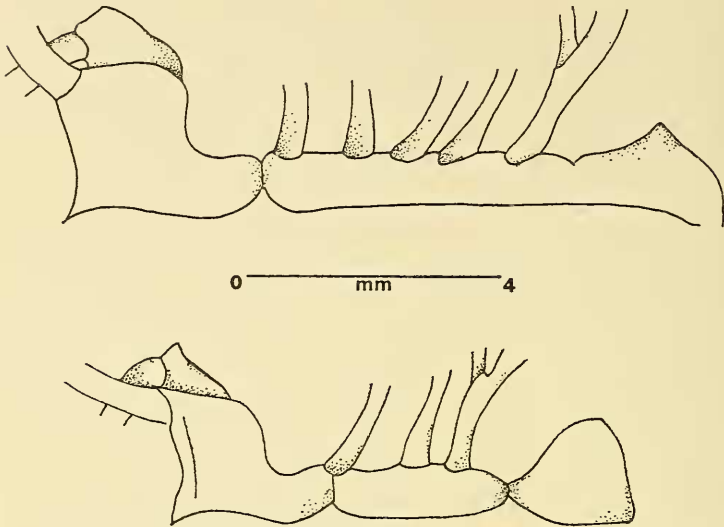


FIG. 1. Diagrammatic representation of ventro-lateral aspect of the sterna of *Anamygdon solomonis* (BPB-BSIP 23757, upper) and *Kerivoula hardwickii depressa* Milier (USNM 17909, lower) showing attachment of ribs and clavicle.

were stored in alcohol; two later were prepared as museum skins with skulls removed, and the cranium of a third was extracted and cleaned so that morphological features could be studied. All measurements given herein are in millimeters and were taken by Phillips.

TAXONOMIC STATUS OF *ANAMYGDON*

We compared our five specimens of *Anamygdon* with the careful, detailed description of the holotype of *A. solomonis* given by Troughton (1929). Furthermore, Basil Marlow compared one of our specimens directly with the holotype in The Australian Museum. In all ways (dimensions, external features including the tragus, and cranial and dental characteristics) our specimens agreed with the holotype.

The sterna of *Anamygdon* and *Kerivoula* are compared in Fig. 1. In *Anamygdon* the length of the sternum is not quite twice as great as the breadth of the presternum, but in

Kerivoula the sternum is much less than twice the breadth of the presternum. Number of ribs connected to the sternum can be counted easily, but a standard system must be used. For example, the first rib, which nearly is obscured by the clavicle, might not be counted, and the last rib could be counted as two because two ribs join together a few millimeters before articulation. Direct comparison revealed that the sternum of *Anamygdon* differs little, if at all, from sterna of numerous species of *Myotis*. In *Myotis*, five ribs attach directly to the body of the sternum. Clearly, Miller's (1907: 197, 232) comments regarding sternal characteristics of the Kerivoulineae and the Vespertilioninae would have been enhanced by an illustration.

Comparative external and cranial measurements of specimens of *Anamygdon solomonis* and *Myotis adversus moluccarum* are given in Table 1. Specimens of *Anamygdon* agree well with a specimen (AMNH 99901) of *Myotis adversus moluccarum* from Nissan in the Solomons and with characteristics given by Thomas (1915: 170-171) for the holotype of *moluccarum*. It is our conclusion, therefore, that *Anamygdon solomonis* is synonymous with *Myotis moluccarum*, which is currently regarded as a subspecies of *M. adversus*. Asian species of *Myotis*, including *adversus*, are in need of taxonomic review. The assignment of specimens herein discussed is as nearly correct as is possible until such a review is undertaken. A revised synonymy (based on literature judged most pertinent) of *Myotis adversus moluccarum* is as follows:

Myotis adversus moluccarum

Leuconoe moluccarum Thomas, Ann. Mag. Nat. Hist., ser. 8, 15: 170, January 1915 (holotype from Ara, Kei Islands); Sanborn, Publ. Field Mus. Nat. Hist., Zool. Ser., 18: 25, 12 February 1931.

[*Myotis*] *moluccarum*, Troughton, Rec. Australian Mus., 17: 85, 26 June 1929.

Anamygdon solomonis Troughton, Rec. Australian Mus., 17: 89, 26 June 1929 (holotype from Roviana, Solomon Islands); Laurie and Hill, List of land mammals of New Guinea, Celebes and adjacent islands, p. 77, 30 June 1954.

M[yo]tis. moluccarum, Tate, Bull. Amer. Mus. Nat. Hist., 78: 551, 29 December 1941.

- Myotis moluccarum*, Tate, Bull. Amer. Mus. Nat. Hist., 78: 590, 31 December 1941.
- A[namygdon]. solomonis*, Tate, Bull. Amer. Mus. Nat. Hist., 78: 590, 31 December 1941.
- Myotis adversus moluccarum*, Laurie and Hill, List of land mammals of New Guinea, Celebes and adjacent islands, p. 69, 30 June 1954.
- Anamygdon [solomonis]*, Ryan, J. Mamm., 46: 517, 25 August 1965.

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